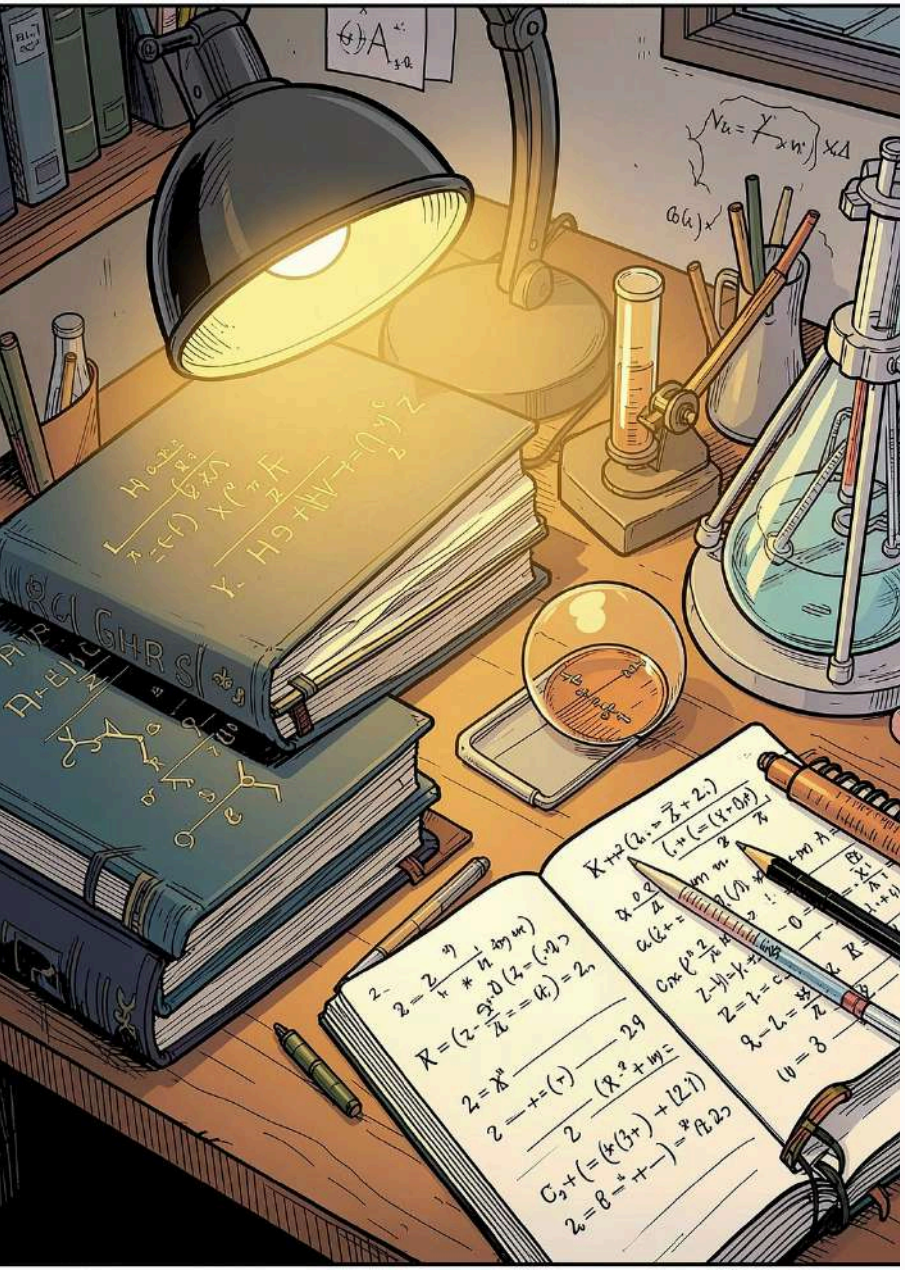

NEET Physics Formula Handbook 2026

Physics is one of the most scoring subjects in NEET when formulas are revised regularly and applied correctly. This handbook compiles important formulas from Class 11 and Class 12 Physics topics that are commonly included in NEET preparation resources and chapter-wise study materials. The purpose of this handbook is to provide a quick revision tool for aspirants preparing for **NEET** 2026.

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About This Handbook

Physics is one of the most scoring subjects in NEET when formulas are revised regularly and applied correctly. This handbook compiles important formulas from Class 11 and Class 12 Physics topics that are commonly included in NEET preparation resources and chapter-wise study materials. The purpose of this handbook is to provide a quick revision tool for aspirants preparing for NEET 2026.

CLASS 11 PHYSICS FORMULAS

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Units and Measurements

Percentage Error

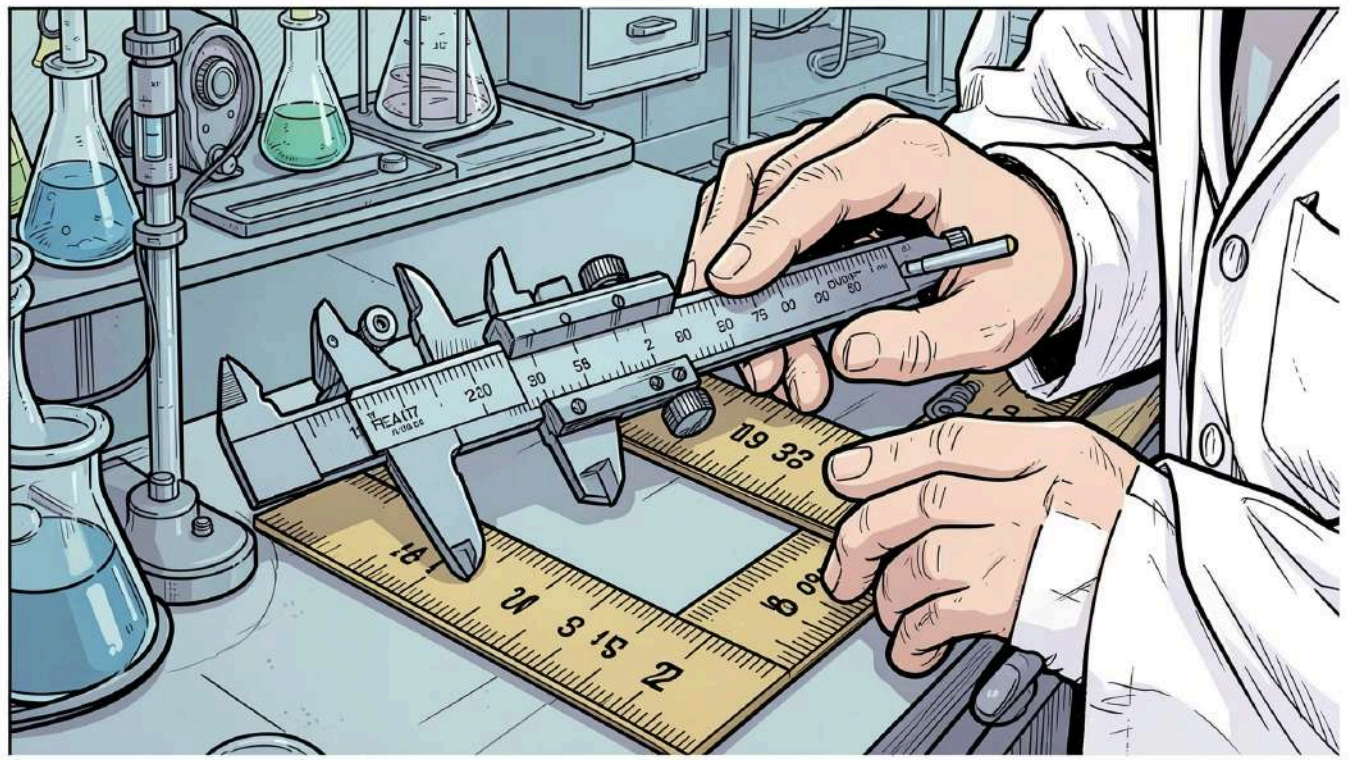
Percentage Error = (Absolute Error / Measured Value) × 100

Expresses error as a fraction of the measured value, scaled to 100.

Relative Error

Relative Error = Absolute Error / Measured Value

A dimensionless ratio indicating the precision of a measurement.



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Motion in One Dimension

Velocity

v = s / t

Distance covered per unit time.

Average Velocity

vavg = Total Displacement / Total Time

Net displacement divided by total elapsed time.

Equations of Motion

v = u + at

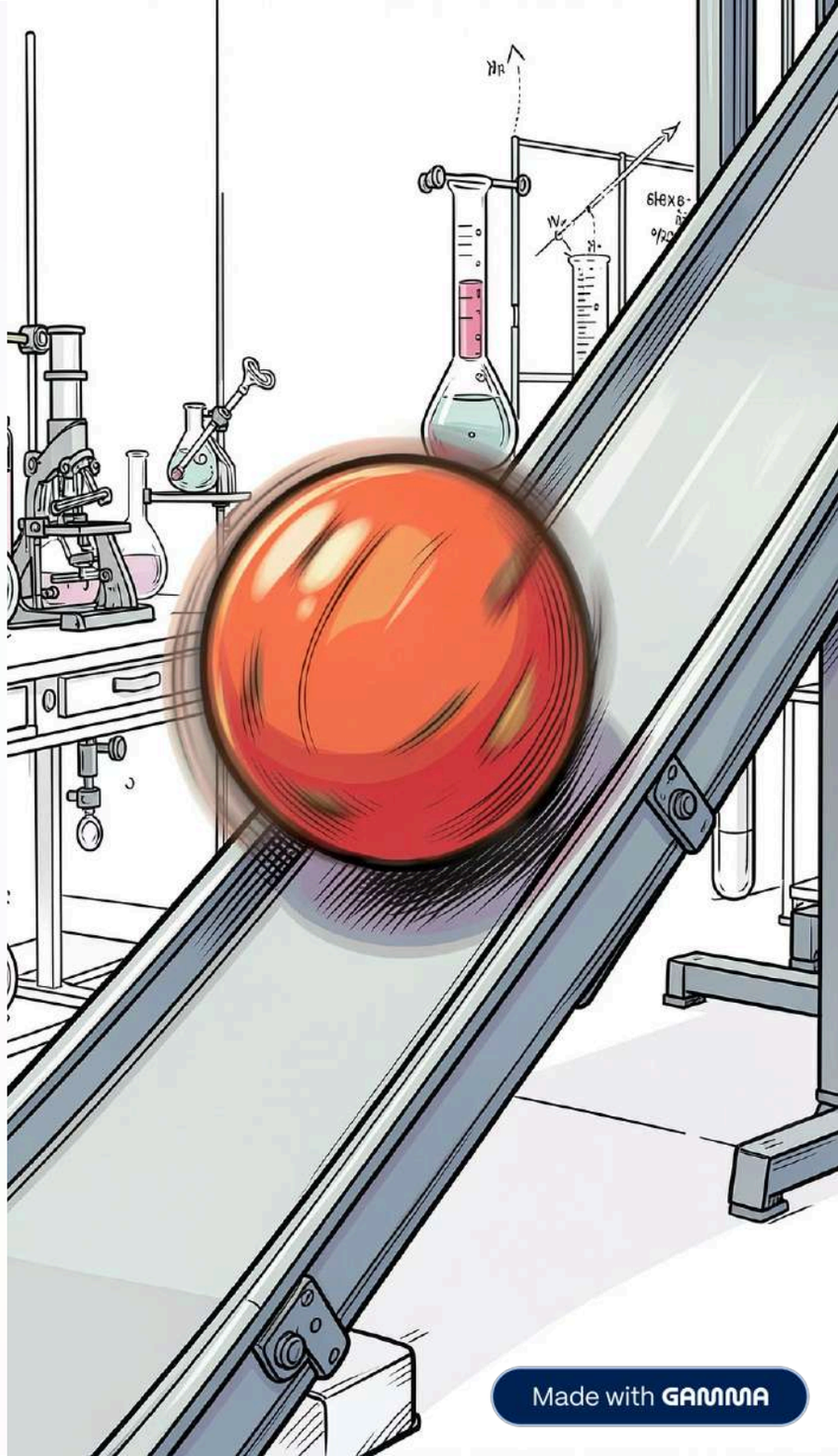
Velocity–time relation

s = ut + ½at²

Displacement–time relation

v² = u² + 2as

Velocity–displacement relation



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Laws of Motion

Force

F = ma

Net force equals mass times acceleration. The cornerstone of Newtonian mechanics.

Momentum

p = mv

Product of mass and velocity. Conserved in isolated systems.

Impulse

J = FΔt

Force applied over a time interval; equals change in momentum.

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Work, Power and Energy

Work Done

W = Fs cosθ

Work is force times displacement times cosine of angle between them.

Kinetic Energy

KE = ½mv²

Energy possessed by a body due to its motion.

Potential Energy

PE = mgh

Energy stored due to position in a gravitational field.

Power

P = W / t

Rate of doing work or transferring energy.

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Gravitation

Universal Law of Gravitation

$F = Gm_1m_2 / r^2$

Every mass attracts every other mass with a force proportional to the product of their masses and inversely proportional to the square of the distance between them.

Acceleration Due to Gravity

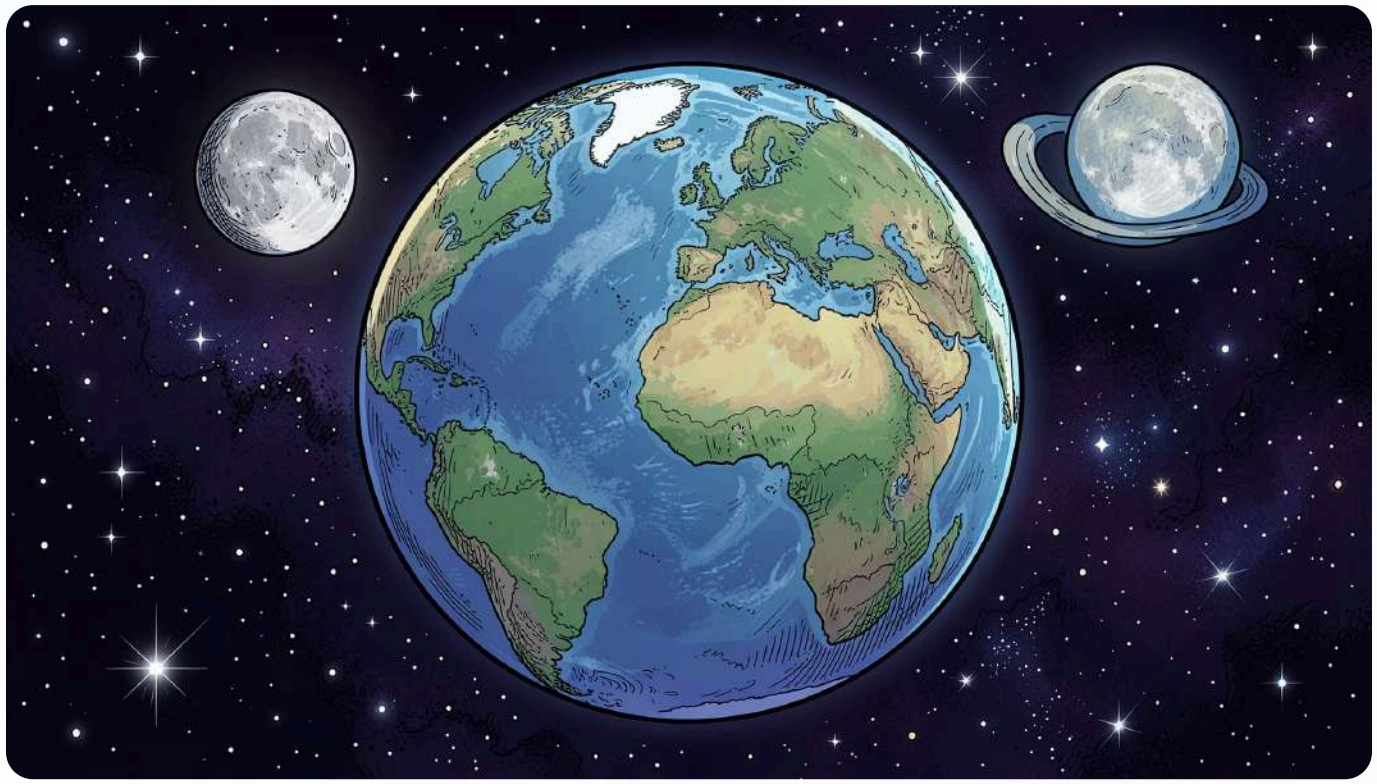
$g = GM / R^2$

Gravitational acceleration at the surface of a planet of mass M and radius R.

Escape Velocity

$v = \sqrt{(2gR)}$

Minimum velocity needed to escape a planet's gravitational pull without further propulsion.



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Properties of Matter

1

Stress

Stress = Force / Area

Internal restoring force per unit cross-sectional area of a material.

2

Strain

Strain = ΔDimension / Original Dimension

Fractional change in dimension; a dimensionless quantity.

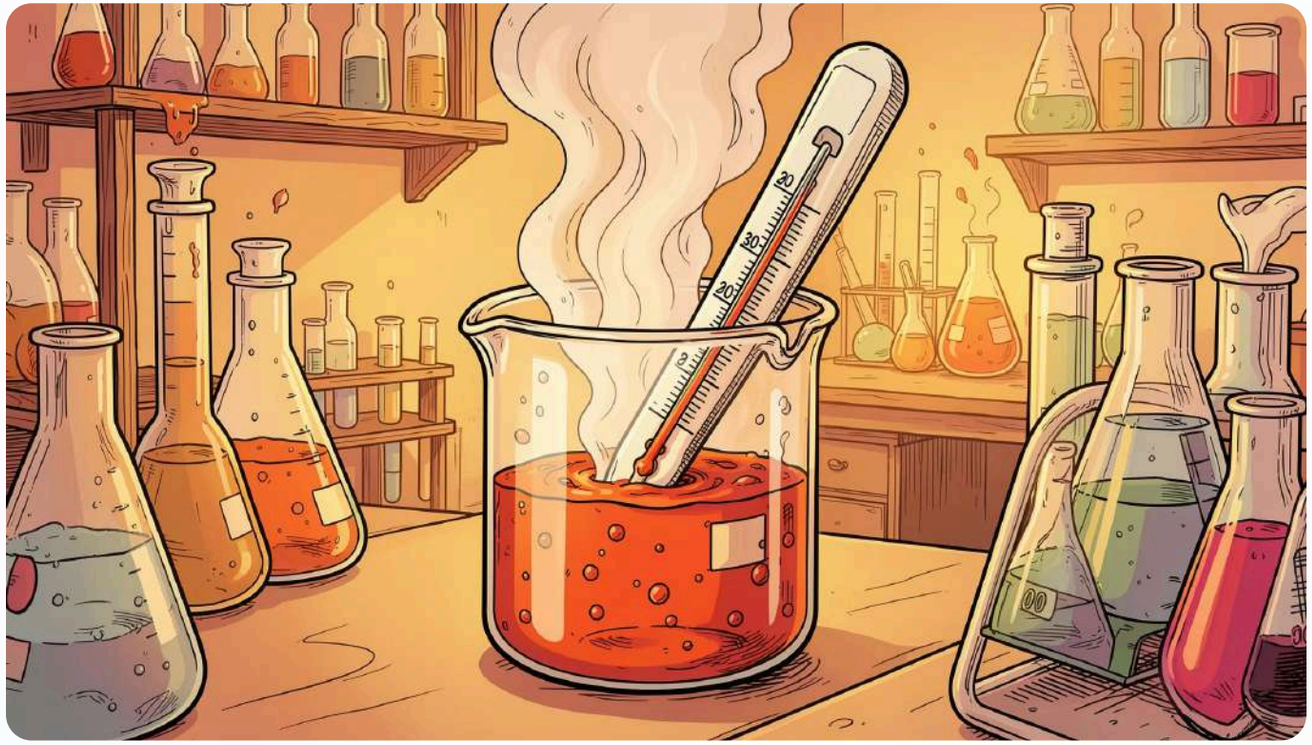
3

Young's Modulus

Y = Stress / Strain

Measure of a material's stiffness under longitudinal stress.

Thermal Physics



Linear Expansion

$\Delta L = \alpha L \Delta T$

Change in length of a solid when its temperature changes by ΔT. Here α is the coefficient of linear expansion, L is the original length.

Calorimetry

$Q = mc\Delta T$

Heat absorbed or released by a substance of mass m, specific heat capacity c, undergoing a temperature change ΔT.

These two formulas form the backbone of thermal analysis in NEET — from expansion of railway tracks to heat exchange in calorimeters.

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Thermodynamics

First Law of Thermodynamics

ΔQ = ΔU + ΔW

Heat supplied to a system equals the increase in internal energy plus the work done by the system. Energy is always conserved.

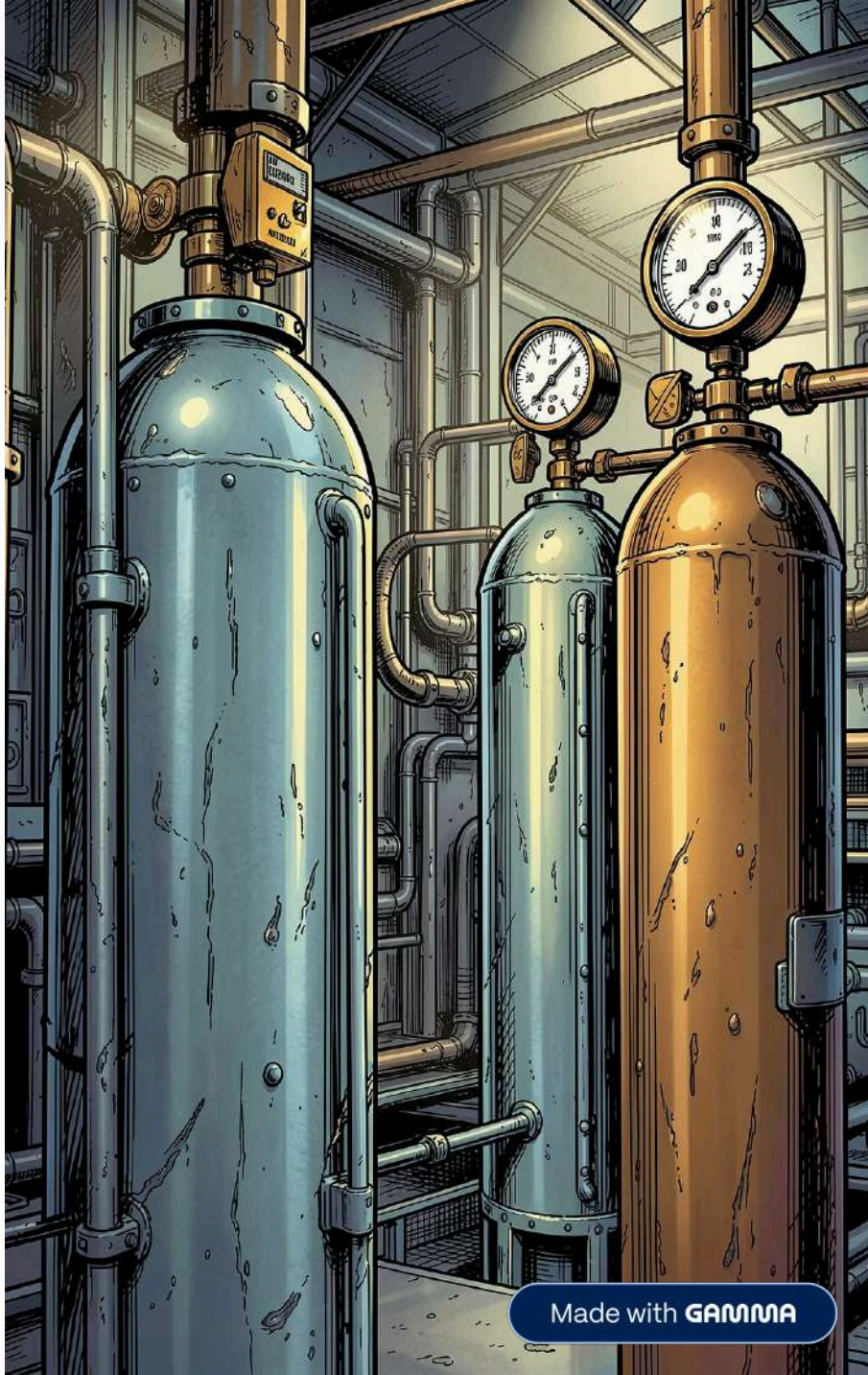
Ideal Gas Equation

PV = nRT

Relates pressure (P), volume (V), number of moles (n), universal gas constant (R), and absolute temperature (T) for an ideal gas.

CLASS 12 PHYSICS FORMULAS — COMING NEXT

The next section of this handbook covers Class 12 Physics topics including Electrostatics, Current Electricity, Magnetism, Optics, Modern Physics, and more — all essential for NEET 2026.



Electrostatics & Current Electricity

Delve into the fundamental forces that govern charged particles and the flow of electrical current, crucial concepts for NEET Physics.

Coulomb's Law

$F = kq_1q_2/r^2$

Describes the electrostatic force between two point charges.

Electric Field

$E = F/q$

Force experienced per unit positive test charge in an electric field.

Electric Potential

$V = W/q$

Work done per unit charge to move it from a reference point to a specific point in an electric field.

Current Electricity

Ohm's Law

$V = IR$

Relates voltage (V), current (I), and resistance (R) in an electrical circuit.

Electric Power

$P = VI$

Rate at which electrical energy is converted into another form.

Electrical Energy

$E = Pt$

Total energy consumed by an electrical appliance over a period of time (t).

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Magnetic Effects of Current

Force on Moving Charge

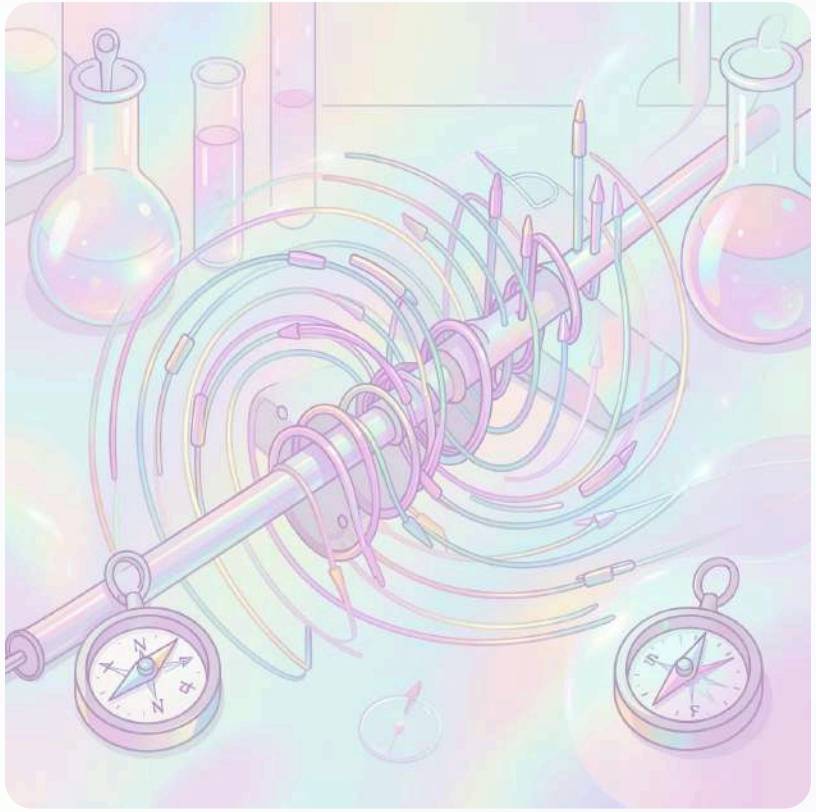
F = qvB sinθ

The force experienced by a charge 'q' moving with velocity 'v' in a magnetic field 'B', where 'θ' is the angle between 'v' and 'B'.

Force on Current Carrying Conductor

F = BIL sinθ

The force experienced by a conductor of length 'L' carrying current 'I' in a magnetic field 'B', where 'θ' is the angle between the conductor and 'B'.



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Electromagnetic Induction & Alternating Current

Explore the principles governing induced electromotive force and the characteristics of alternating electrical signals.

Faraday's Law of EMI

$E = -d\Phi/dt$

Induced EMF is proportional to the negative rate of change of magnetic flux.

RMS Voltage

$V_{rms} = V_0/\sqrt{2}$

Root Mean Square value for alternating voltage, representing its effective value.

RMS Current

$I_{rms} = I_0/\sqrt{2}$

Root Mean Square value for alternating current, indicating its effective value.

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Optics & Modern Physics

Dive into the principles of light behavior and the revolutionary concepts of modern physics, essential for a comprehensive understanding of the NEET syllabus.

Mirror Formula

$1/f = 1/v + 1/u$

Relates focal length (f), object distance (u), and image distance (v) for spherical mirrors.

Magnification

$m = v/u$

Ratio of image height to object height, or image distance to object distance.

Lens Formula

$1/f = 1/v - 1/u$

Relates focal length (f), object distance (u), and image distance (v) for thin lenses.

Wave Optics

Young's Double Slit Experiment

$\beta = \lambda D/d$

Formula for fringe width (β) in interference patterns, where λ is wavelength, D is screen distance, and d is slit separation.

Modern Physics

Photon Energy

$E = h\nu$

Energy of a photon, proportional to its frequency (ν), with h as Planck's constant.

Einstein's Equation

$E = mc^2$

Relates mass (m) and energy (E), showcasing mass-energy equivalence, with c as the speed of light.

de Broglie Wavelength

$\lambda = h/p$

Wavelength of a particle, inversely proportional to its momentum (p), demonstrating wave-particle duality.

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High-Weightage Chapters for NEET Physics

1. Mechanics
2. Current Electricity
3. Electrostatics
4. Modern Physics
5. Ray Optics
6. Magnetic Effects of Current
7. Electromagnetic Induction
8. Thermodynamics
9. Oscillations and Waves
10. Semiconductor Electronics

Quick Revision Tips

1. Revise formulas daily for 15–20 minutes.
2. Focus on units and dimensions while solving numericals.
3. Practice previous years' NEET questions chapter-wise.
4. Create short notes for high-weightage chapters.
5. Memorize standard values and constants regularly.

Disclaimer

Students should always verify the latest NEET syllabus and examination pattern from official sources before preparation. This handbook is intended as a quick revision resource and should be used alongside NCERT textbooks and comprehensive study material.

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